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INNOVATIVE APPROACHES TO DEVELOPING PROFESSIONAL COMPETENCE THROUGH SIMULATION TECHNOLOGIES IN HIGHER EDUCATION

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Abstract
This article analyzes innovative approaches to the development of students' professional competence based on simulation technologies in the higher education system. The article highlights the effectiveness, methodological foundations and practical application possibilities of simulation training based on international scientific sources. The pedagogical effectiveness of modeling-based learning and its role in improving the quality of education are scientifically substantiated.

Keywords: Modeling, professional training, competence, pedagogical skills, situational approach, modeling, interactive learning, micro-learning methods, communication, gamification.

Introduction

Аннотация
В данной статье анализируются инновационные подходы к развитию профессиональной компетентности студентов на основе симуляционных технологий в системе высшего образования. В статье освещаются эффективность, методические основы и возможности практического применения симуляционного обучения на основе международных научных источников. Научно обоснована педагогическая эффективность обучения на основе моделирования и его роль в повышении качества образования.

Ключевое слова: Моделирование, профессиональная подготовка, компетентность, педагогическое мастерство, ситуационный подход,

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моделирование, интерактивное обучение, методы микрообучения, коммуникация, геймификация.

One of the main tasks facing the modern higher education system is to train competitive, independent thinkers and professionals with a high level of professional competence. In this process, improving the quality of education in higher education institutions, introducing effective teaching methods, and widely using innovative pedagogical technologies are of particular importance. Especially in a time when digital transformation processes are accelerating, the need to combine traditional teaching methods with modern approaches is growing.

Today, the higher education system faces the problem of integrating theoretical knowledge with practical activities, which can negatively affect the level of students' preparation for real professional situations. In this context, simulation technologies are considered an effective tool that allows students to gain experience in a safe environment by modeling real-life situations. These technologies serve to make the learning process interactive, practice-oriented, and student-centered.

The use of simulation technologies in higher education is being widely studied by the global scientific community. Studies show that simulation-based training significantly increases students' knowledge acquisition, practical skills, and professional training compared to traditional methods. In particular, meta-analytic studies have shown that simulation-based learning is highly effective in developing complex competencies. Simulation technologies allow students to gain practical experience by modeling conditions close to real life. This significantly increases the level of training for professional activities.

The following advantages of simulation training are highlighted in scientific sources:

- opportunity for contextual learning;
- learning environment that is close to real-life situations;
- opportunity to conduct safe experiments;
- Development of reflection and analysis skills.

Research in the field of pedagogy shows that simulation technologies are particularly effective in teacher training, helping to develop the competencies of future teachers in organizing lessons, communicating with children, and resolving pedagogical situations.

The preschool education sector is one of the most important and responsible areas of pedagogical activity, and professionals working in it must have a high level of

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professional and methodological training. Working with preschool children requires the teacher to have not only theoretical knowledge, but also a psychological approach, communication skills, and the ability to make decisions appropriate to the situation. Therefore, the formation of practical skills is of particular importance in the process of training future teachers. In recent years, as a result of reforms aimed at developing the preschool education system, special attention has been paid to the quality of education and the training of teaching staff. This requires the organization of teaching based on modern pedagogical technologies for students of the preschool education program in higher education institutions. It is through simulation technologies that it is possible to effectively develop professional and methodological competence in students by modeling pedagogical situations, organizing role-playing games, and recreating the educational process in a virtual environment.

The importance of simulation training in preschool education is even greater, as educators in this field need to practice various pedagogical situations before working with real children. International studies (experiences from Finland, South Korea, and the United States) have shown that the widespread use of virtual groups, role-playing games, and microteaching methods in the training of preschool teachers has yielded high results. Simulation technologies are a set of pedagogical technologies that organize training by artificially modeling real-life or professional situations. These technologies bring the learning process into an interactive and experiential form.

The main components of simulation technologies are:

- model (a simplified form of a real process);
- scenario (description of a pedagogical situation);
- participants' activities (role-playing or decision-making);
- reflection (stage of analyzing the experience).

Simulations can be used in the following forms in the preschool education sector:

- modeling communication between the educator and the child;
- resolving conflict situations;
- organizing play activities;
- communication situations with parents.

These processes allow students to prepare for real pedagogical activities.

Professional competence is the integration of knowledge, skills, competencies, and personal qualities necessary for a professional to effectively perform their

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professional activities. Simulation technologies develop this competence in the following areas:

- cognitive competence (application of theoretical knowledge in practice);
- practical competence (skills in performing pedagogical activities);
- communicative competence (communication with children and parents);
- reflective competence (analysis of one's own activities).

This is especially important for preschool students, as their activities include:

- individual work with children;
- organizing developmental games;
- managing educational situations.

Simulations allow you to practice these processes in advance and help you correct errors in a safe environment. The following innovative approaches are important when using simulation technologies:

1. Virtual simulations. It is implemented on distance learning platforms and creates an interactive environment.
2. Microeaching (microteaching). Students perform and analyze short lesson fragments on a simulation basis.
3. Gamification-based simulations. Motivation is increased through the elements of the game.
4. Simulations based on artificial intelligence. Changes the situation in accordance with the student's actions.
5. AR/VR technologies.(AR/VR technologies are innovative information and communication technologies that combine real and virtual environments and create an interactive digital experience for the user.) They allow you to create a virtual kindergarten environment.

These approaches to preschool education:

- allow for the study of children's psychology;
- model real-life situations;
- allow for in-depth analysis of pedagogical situations.

There are a number of challenges in implementing simulation technologies into practice:

- ➢ Technical problems: lack of modern devices and software
- ➢ Human resources problem: low level of teacher training
- ➢ Methodological problems: lack of specialized methodological manuals

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➢ Financial problems: high cost required
➢ Psychological barriers: difficulties in abandoning the traditional approach

In the field of preschool education, there are also problems such as the difficulty of correctly modeling children's activities and the complexity of pedagogical situations.

The following measures are recommended to improve the effectiveness of simulation technologies:

- special training and advanced training of teachers;
- establishment of simulation laboratories;
- implementation of international experience;
- integrate curricula;
- create a database of pedagogical scenarios;
- expand the use of digital platforms.

For preschool education:

- Creating models of “virtual kindergartens”;
- Forming a bank of real pedagogical situations;
- Improving the methodology of role-playing games is of great importance.

In conclusion, it is worth noting that the introduction of simulation technologies into the higher education system is not only a way to improve the quality of education, but also a strategic direction for the formation of pedagogic personnel with modern competencies, ready for practical activities, and competitive. In particular, the effective use of these technologies in the field of preschool education is of great scientific and practical importance in ensuring the quality of education of future generations.

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